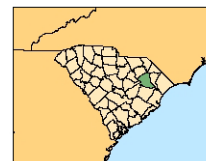


# FLORENCE COUNTY, SC

## Hazard Profile for 2008

*An Excerpt from the State of South Carolina Hazard Assessment for 2008*



### I. Summary

Florence County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval for hurricanes is 19.8 years, making it a rare event. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards within the county.

### II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (<http://www.sovius.org>).

Within Florence County, most of the census tracts exhibit moderate range of social vulnerability. In Florence City there are tracts with elevated vulnerability (higher SoVI scores), as well as moderately elevated tracts in the southern portion of the county. Figure 1 provides a map of the Florence County US Census Tracts and their associated social vulnerability.

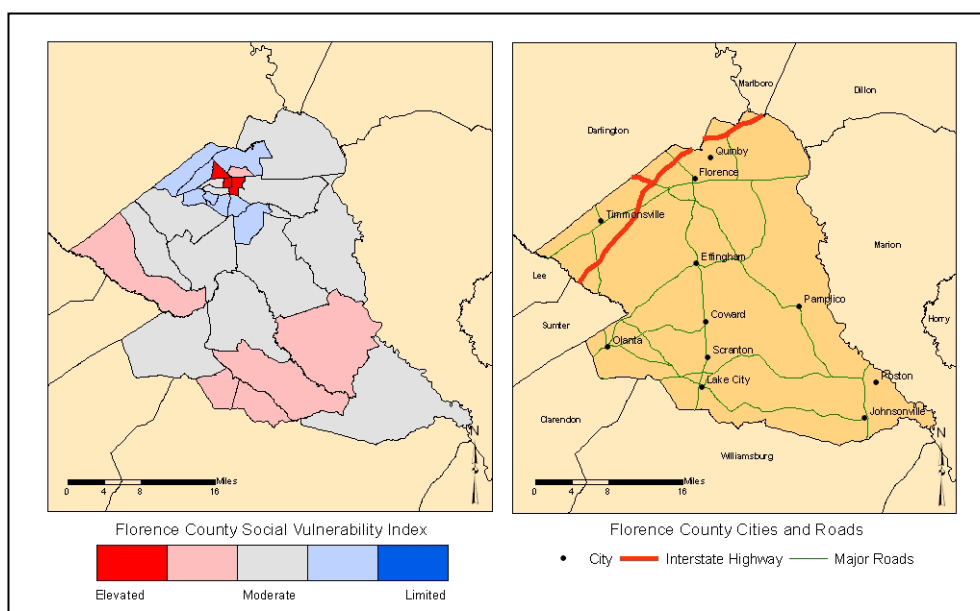


FIGURE 1. The Social Vulnerability for Florence County, SC by US Census tracts.

### III. Terms

**Disaster** – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

**Frequency** – a calculated number showing the chance of an event occurring each year based on the historic record.

**Hazard** – the potential threat to humans as well as the impact of an event on society and the environment.

**Recurrence** – a calculated number that examines the expected time interval between events based on the historic record.

**Risk** – the likelihood or probability of occurrence of a hazard or adverse event.

**Vulnerability** – the potential for loss or the capacity to suffer harm from a hazard event.



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# FLORENCE COUNTY HAZARD PROFILE 2008

## IV. Hazard Identification

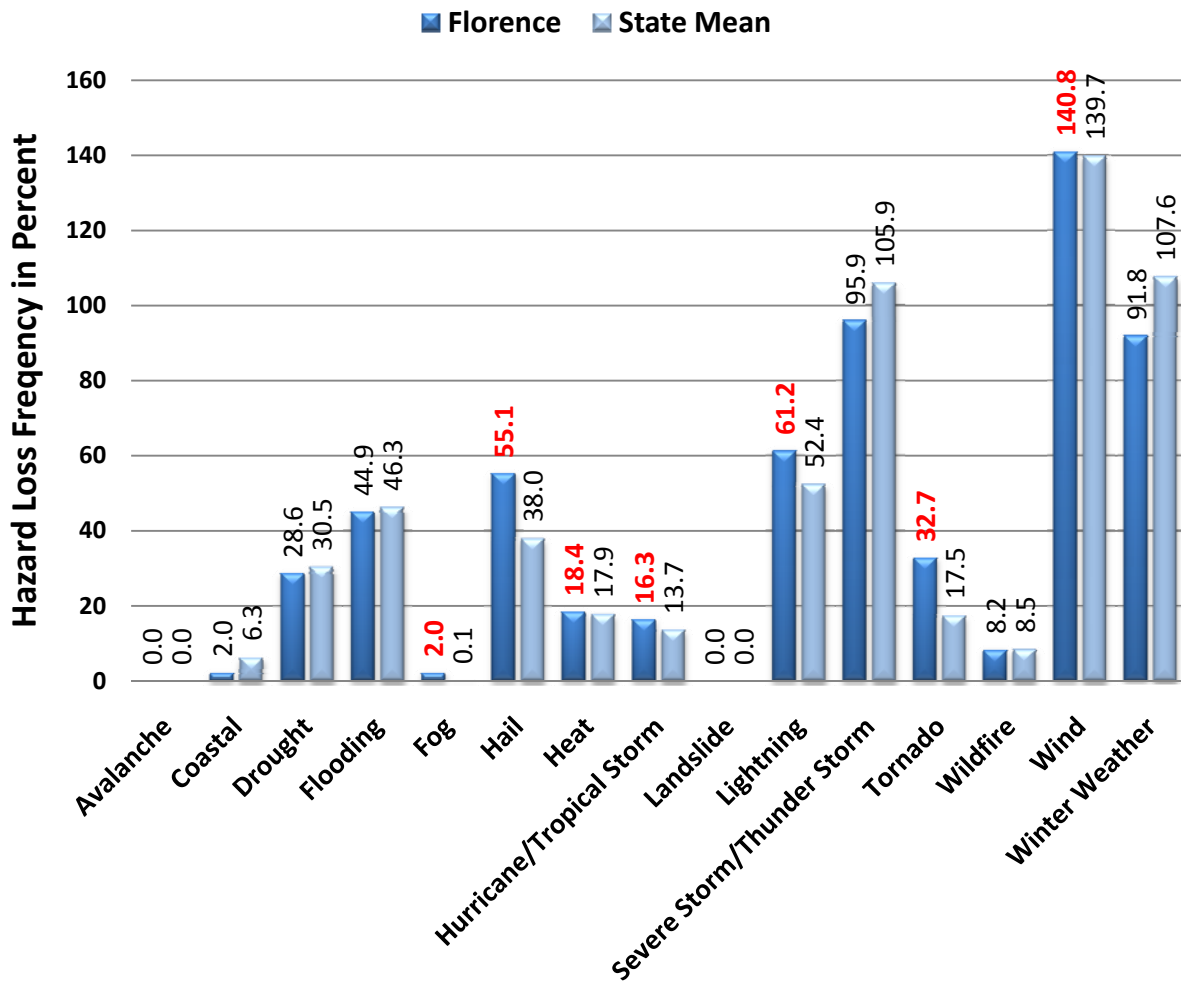
The estimated recurrence of a hazard is a useful element in distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents based on event frequency. The most common hazards in Florence County are hazardous material accidents, severe thunderstorm and wind, hail, and wildfires. Earthquakes, hurricanes/tropical storms, and temperature extremes are among the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in table 1.

TABLE 1. The Hazard Profile for Florence County, SC.

Hazard <sup>a</sup>	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
<b>Coastal Events</b>				
Hurricane/Tropical Storm	8	158	19.75	5.06
Ocean & Lake Surf <sup>b</sup>	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	9	59	6.56	15.25
Flood	13	59	4.54	22.03
Fog	1	12	12.00	8.33
<b>Geophysical Events</b>				
Avalanche	0	49	*	*
Earthquake	1	310	310.00	0.32
Landslide	0	49	*	*
<b>Human-Induced Events</b>				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	183	22	<0.50	831.82**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	35,885	10	<0.50	358,850.00**
<b>Severe Thunderstorm Events</b>				
Funnel Cloud	1	16	16.00	6.25
Hail	102	59	0.58	172.88**
Heavy Precipitation	6	15	2.50	40.00
Lightning	16	16	1.00	100.00
Thunderstorm & Wind	156	59	<0.50	264.41**
Tornado	31	59	1.90	52.54
<b>Temperature Extremes</b>				
Wildfire	4,131	21	<0.50	19,671.43**
Winter Weather (Snow & Ice)	9	59	6.56	15.25
<sup>a</sup> Data Sources: National Climatic Data Center <a href="http://www.ncdc.noaa.gov/cgi-win/wwwcqi.dll?wwwEvent~Storm">www.ncdc.noaa.gov/cgi-win/wwwcqi.dll?wwwEvent~Storm</a> ; National Geophysical Data Center <a href="http://www.ngdc.noaa.gov/hazard/">www.ngdc.noaa.gov/hazard/</a>			* Unable to calculate (cannot divide by zero) ** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year - Data Unavailable	
<sup>b</sup> Includes coastal flooding, coastal erosion, coastal winds				

## V. Hazard Loss Information

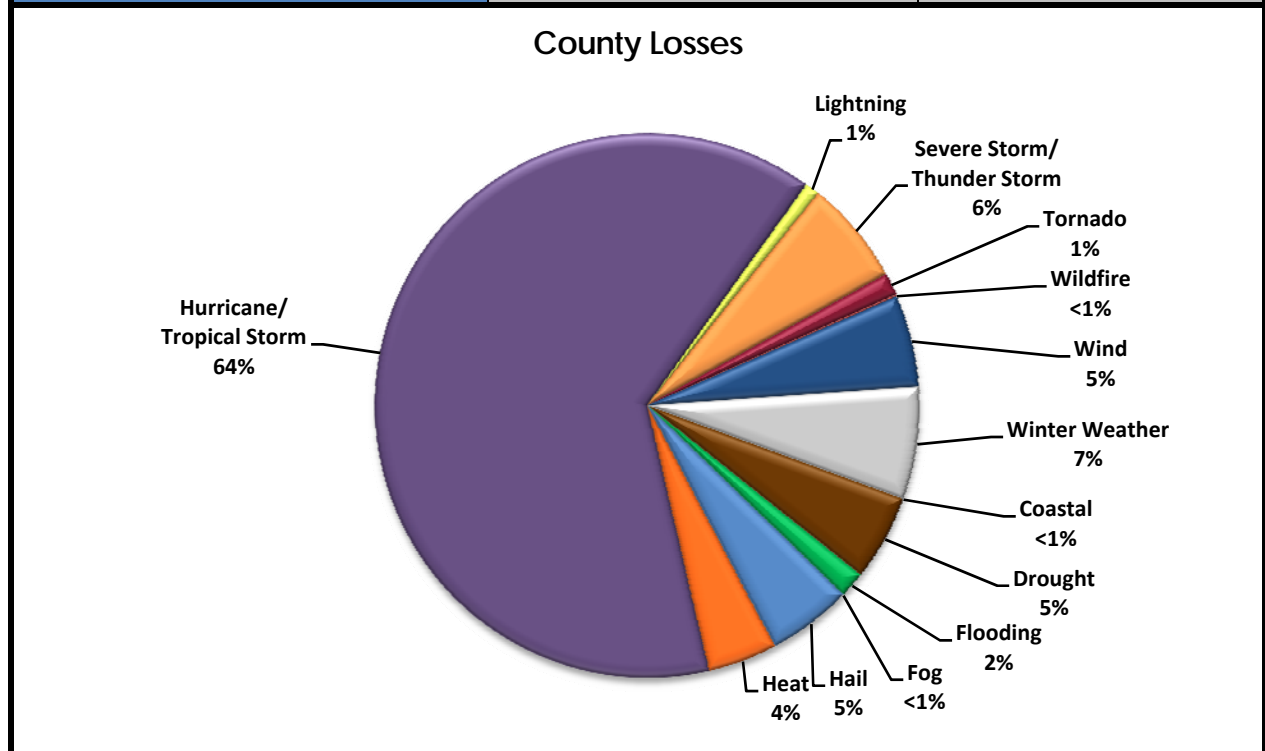
When compared to South Carolina as a whole, Florence County has a higher probability of loss-producing fog, hail, hurricane/tropical storm, lightning, and tornado events. It has roughly has the state average for heat and wind events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms and winter weather are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.



**FIGURE 2.** The historic loss causing hazard frequency between 1960 and 2008 for Florence County compared to South Carolina as reported in SHELUDS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELUDS database (available at <http://www.sheldus.org>). The historic losses in Florence County exceed \$273 million, and are largely due to hurricanes and tropical storms. Hurricane/tropical storm represented 64% of the damage in Florence County. While significant for the county, these cumulative losses represent 2.9% of the state's total overall. The county contains 13% of the state's hail damage, and 59% of the losses due to fog.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	\$6,476	0.01%
Drought	\$14,055,942	2.17%
Flooding	\$4,190,964	2.71%
Fog	\$23,908	59.13%
Hail	\$13,744,080	13.33%
Heat	\$11,286,643	2.17%
Hurricane/ Tropical Storm	\$174,101,543	3.16%
Lightning	\$2,365,276	4.50%
Severe Storm/ Thunder Storm	\$17,027,047	8.06%
Tornado	\$3,622,286	1.53%
Wildfire	\$334,042	2.09%
Wind	\$14,950,380	10.26%
Winter Weather	\$18,242,463	2.02%
<b>Florence - Total</b>	<b>\$273,951,050</b>	<b>2.86%</b>



**FIGURE 3.** Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Florence County, SC.